ASTP (USA) MC496/1
Time: 07:40 CDT, 144:19 GET
7/21/75

ACDR Roger, Bo.
PAO Acquisition for 4 minutes through the tracking ship Vanguard.
PAO LOS Vanguard. Reacquisition 16 minutes away through Santiago, Chile. 144:21 ground elapsed time. This is Apollo Control.
PAO 144 hours, 37 minutes ground elapsed time. This is Apollo Control. Acquisition less than 30 seconds away through Santiago. At this time, Tom Stafford should be preparing himself for Earth observations pass over Central South America. He'll be looking at the Falkland Current and that - sand dune fields, just east of the Andes Mountains. And, Deke Slayton is scheduled right now to be taking photographs of the crystal growth experiment and zone forming fungi.
CC-H Comes through Santiago and then ATS.
ACDR Okay, Bo. Read you 5 - by.
ACDR Houston, Apollo.
CC-H Apollo, Houston. We read you loud and clear. Go ahead.
ACDR Okay, Bo. I'm starting this Earth Obs pass. Okay, we're off a couple, of minutes on GET from what they're lined up and I'll talk to you later. I'm busy now.
CC-H Okay.
CC-H Apollo, Houston. We'd like ACCEPT if someone has a chance.
ACDR You got ACCEPT; we're running B20.
CC-H Roger. ACCEPT, then it won't hurt.
PAO This is Apollo Control. We've received confirmation through the Moscow press site, that Valeriy Kubasov was the first out of the Soyuz this morning. And, Alexey Leonov was second. And, not first as previously indicated from the Soyuz commentary. Once again, first out of the Soyuz this morning was Valeriy Kubasov, followed by Alexey Leonov.
CC-H Apollo, Houston. We're finished with the computer, you can go BLOCK.
ACDR Okay.

END OF TAPE

ASTP (USA) MC497/1
Time: 08:06 CDT, 144:46 GET
Date: 7/21/75

CC-H Apollo, Houston. We'd like the x-ray contingency prep started so we can get our x-ray cal in at the proper time.

ACDR Okay.

ACDR Houston, Apollo.

CC-H Apollo, Houston. Go ahead.

ACDR The x-ray contingency prep has been completed. Would you just remind me what getting the backup purge to OFF does.

CC-H That pressurizes the detector. See last night we had the detector venting and so now we've repressurized it and then we're going to do a calibration here and turn - after that turn the high voltage power OFF and evaluate the data and decide what they're going to do with the x-ray.

ACDR Okay.

END OF TAPE

ASTP (USA) MC498/1
Time: 08:16 CDT, 144:56 GET
7/21/75

PAO This is Apollo Control at 144:55 ground elapsed time. Change of shift briefing in about 10 minutes in the main auditorium at JSC with outgoing flight director Don Puddy. The flight surgeon Dr. Jerry Hordinsky and spacecraft communicator Karol (Bo) Bobko. This is at 8:30 in the JSC auditorium.

END OF TAPE

ASTP (USA) MC499/1
Time: 08:26 CDT, 145:06 GET
7/21/75

CC-H Good morning, Apollo. The amber team's with you, and I need somebody to dig out the update book so I can give you the PAD for this trim maneuver we got coming. I know everybody's pretty busy, I was wondering if Deke has a moment.

DMP Okay, just a second.

DMP Since you're on the ATS, standby for a minute and we'll finish this pass and we'll be with you.

CC-H Okay. Our problem is that we're going to - soon as you finish this pass - (garble) were going to iniate a maneuver for this EUV and we're gonna lose comm shortly.

ACDR Okay. Give it to me, Crip.

CC-H Okay. I understand you've got the updates book out.

ACDR That's afirm.

CC-H Okay. Coming at you with NOUN 33. 146:36, all balls; minus 007.4, all balls, all balls, 182, 329 -

ACDR Hang on a second.

CC-H Okay.

ACDR (Garble) Just stand by 1.

CC-H I'm sorry, what you need is one of the P30 PAD's. A maneuver update.

DMP Yeah - that's what I had, but it started floating off here and I lost you. Okay, start over again, please.

CC-H Okay. Starting out again with our NOUN 33. 146:36, all balls, minus 007.4, all balls, all balls, 182, 329, 355, 007.4, 00:37. Readback please.

ACDR Okay. 146:36, all balls, minus 00:74, all balls, all balls, 182, 329, 355, 007.4, 00:37.

CC-H That's a good readback, Deke. And - down in the remarks I'd like you to add, by pass the P41 attitude maneuver, do 2 jet minus X, set delta V counter to 100.0, and delta V counter will count up, of course, to 107.4.

DMP Okay. By pass P41 attitude maneuver, 2 jet minus X, delta V to 100, should count up to 107.4.

CC-H Okay, fine.

DMP Incidentally, you're getting cut out again today, by some tower down there.

CC-H Copy. Are you flying with VHF FM on now?

DMP Negative.

ACDR Bo had the FM off and I've had hep powered down in the DM since yesterday or the night before yesterday.

CC-H Copy. Incidentally, on one other item on this. We're not going to have the opportunity to give - give you a load for this maneuver or this burn and it's gonna have to be loaded manually.'

ACDR Okay. No problem.

PAO This is Apollo Control. Crew of Apollo now completing their morning visual observations pass over several sites. Including the Chilean Andes, dune fields just to the east of the Andes range, the Parana River and certain circular geologic structures in that same area. Cloud features along the ground track. The Strait

ASTP (USA) MC499/2
Time: 08:26 CDT, 145:06 GET
7/21/75

of Gibraltar. And the Alps. We're expecting the change of shift briefing to begin mometarily in the main auditorium in JSC. Flight Director, Don Puddy, surgeon Dr. Jerry Hordinsky, CAP COMM Karol Bobko. At the time of the Soyuz retrofire, Apollo was some 460 nautical miles behind Soyuz, but by the time Soyuz thumped down in Central Asia, Apollo was some 3,000 nautical miles ahead of Soyuz. Any air-ground that takes place during this change of shift briefing will be recorded for delayed playback at conclusion of the change of shift briefing. This is Apollo Control at 1:45:10.

END OF TAPE

ASTP (USA) MC500/1
Time: 09:34 CDT, 146:14 GET
7/21/75

PAO This is Apollo Control, 146 hours 12 minutes ground elapsed time. Acquisition through Quito, Ecuador in about 3 minutes which is about the length of delayed tape we have accumulated during Orroral Valley and Madrid pass recorded during the change-of-shift press conference. We'll roll that tape at this time and go live across Quito and ATS.

CC-H Apollo, Houston. Vance, or whoever's performing, we've had a little problem there with that cal and we need somebody to move a switch for us down there, please. We need to take the - on panel 230, we need to take the X-ray purge switch to the CAL position, down.

CMP Okay. Did it once, will do it again.

CC-H Roger. We - We copy.

DMP Okay. Switched to CAL there, Crip.

CC-H Thanks a lot, Deke.

CC-H We're going to lose you here shortly and have you again at Orroral in about 33 minutes.

DMP Okay.

CC-H Apollo, Houston. We're AOS through Orroral. We have you for about 3 minutes.

CC-H Apollo, Houston. How do you read through Orroral ?

CC-H Apollo, Houston. How do you read through Orroral?

CMP Houston, Apollo. Reading you weakly.

CC-H Roger. Read me any better now?

CMP Little better. What's up?

CC-H Oh, not much. Need to get a couple of items. We saw an NC&W just before we lost you a while ago and we couldn't determine what it was here. Can you enlighten us a little bit?

DMP We haven't seen one. You caught us by surprise.

CC-H Well, it must have been a data glitch down here or something if you guys didn't get it. Only other item - well, if we could get the potable water inlet valve closed we would appreciate it.

CMP Okay. I'll close it for you. Anything else ?

CC-H Well, whenever we can work it in, we would like to get the result of that last P52 you did.

CC-H That probably was recorded over on the previous page of your checklist there - on your Flight Plan rather.

ACDR How do you read now, Crip?.

CC-H Loud and clear, Tom. But we're about to go over the hill here at Orroral, I'll just go ahead and get this on the next ATS pass. We'll pick - -

ACDR P52 - -

CC-H - - up later. See you there.

ACDR - - went real good. No problem.

CC-H Okay.

CMP And, potable water inlet's closed.

CC-H Okay. We'll - we'll see you at Quito in about 28 minutes.

ASTP (USA) MC500/2
Time: 09:34 CDT, 146:14 GET
7/21/75

PAO This is Apollo Control. That completes playback of the Orroral Valley, Australia tracking station pass and the Madrid pass last revolution. These two were recorded during the change-of-shift briefing. We should be at this time in contact through the Quito, Ecuador tracking station. A brief gap after Quito until the satellite acquires Apollo again. And we're standing by.

CC-H Apollo, Houston. We're AOS through Quito, we've got you for about a minute and a half.

CC-H Apollo, Houston. AOS, Quito for 1 minute.

ACDR Roger. Copy. Hear okay?

DMP Hey, Crip. I put the data recorder on the furnace and record anything (garble).

CC-H Deke, you're so weak I can hardly read you.

DMP I said the temperature in the furnace prior to helium inject - -

CC-H Yeah. I - that comm seems to be very poor right now so why don't we wait until a little while until we get through then I'll get you a furnace report there.

DMP Okay.

END OF TAPE

ASTP (USA) MC501/1
Time: 09:44 CDT, 146:24 GET
7/21/75

CC-H Apollo, Houston. We're talking at you now through the ATS. Got you for 52 minutes.
CC-H Apollo, Houston. We're with you through the ATS.
USA (Garble)
CC-H Apollo, Houston. I can hear something very faint in the background, but - unreadable.
CMP Roger. How do you read now?
CC-H Oh! Loud and clear, Vance.
CMP Okay. We're all set, coming up for our RCS burn. Just crossed over the Andes and the Amazon. Amazingly clear day over the Amazon.
CC-H Great. Sounds like a pretty view. Vance, would you - do you got - do you have time to give me that P52 results, just to give us a quick idea what the platform looks like?
CMP Yeah. Tom's getting it right now.
CC-H Also - where you normally might go ahead and give us - turn the tape recorder on - the high BIT rate and so forth - for a burn - we do not want to do that one for this one. It would perturbate our scheduling over the DSE for the experimental stuff.
CMP Okay. Understand.
ACDR Okay, Crip. Ready to copy?
CC-H Yes, sir. Shoot it to me.
ACDR All righty. First star is 06. Second, 15. NOUN 05, all balls, puls 148, minus 187, minus 128. And we torqued to GET 144:31:00.
CC-H Roger. Was the Z component a minus 108?
ACDR Minus 128.
CC-H Okay. Copy. Thank you.
CC-H Incidentally - you probably already noticed on the burn, there - we're doing it in this attitude in minus X because it is pretty close to the next attitude that we have to go to for the EUV pad coming up. Didn't think you'd mind a little eyeballs out there.
ACDR Oh, no. No problem. Good way to balance up the quads, too - (garble) there.
CC-H Rog.
CC-H Apollo, Houston - for Deke. You were trying to give us some comment about the furnace awhile ago, through Quito, and we couldn't read you there. And we're - be glad to get it, if you could give it to us now.
DMP Okay, Crip. I just wanted to give you a report on the - temp on the furnace. And it was 492 for our helium check.
CC-H Okay. Thanks a lot. Appreciate it.
DMP Sure.
CC-H Yeah. That all looks good. That is about what we were predicting it would be.
DMP Okay.

END OF TAPE

ASTP (USA) MC502/1
Time: 09:54 CDT, 146:34 GET
7/21/75

ACDR Okay, Crip. We're coming up to 2 minutes on the burn.
CC-H Roger that. We're standing by here. We're now looking at playback data for the tape recorder so we haven't got to real time data. We will have it just as soon as we get AOS Madrid which is about a minute from now.
ACDR And we're burning.
CC-H Copy.
ACDR Okay. There we are Crip. Zero minus 1 and plus 2.
CC-H Roger.
ACDR And the EMS reads 107.8.
CC-H Copy that.
CC-H Very good. That should put you right down in the middle come Thursday.
ACDR Sounds great.
ACDR Hey, Crip. Would you say we were about over the Straits of Dover now?
CC-H That's affirmative.
ACDR Okay. Great. We got a picture of it then.
CC-H Okey doke. We would advise that if we can go ahead and get this VERB 49 maneuver in - probably need to get it - get it started to get there in time for the EUV pass.
ACDR It's in work, Crip.
CC-H Okay, fine. I also need to update you on this upcoming EUV pass. We want to delete the X-ray ops out of it because of our problem with the instrument. Also we want to do that same thing on rev 90. I'll - if you want to pull out your supplements and make notes on those, I'll stand by to repeat them.
ACDR And we're maneuvering.
CMP Stand by.
CC-H Copy.
CMP Okay. We got it out.
CC-H Okay, fine. It - on both of these pads, rev 89 EUV, we just wanted to delete X-ray ops. Also the same for rev 90.
CMP Okay. Done. Too bad. Does it look like we'll be using that instrument a little later?
CC-H We're - we're still investigating it. We'll get back with you on that. I might - one comment I might make is that the really important science data from the standpoint of the other two instruments both EUV and Helium glow, we've got some of their highest priority revs and targets upcoming. In fact, I believe this one that you're doing now has - it's about the second highest priority with - one of the highest priority targets involved. We had a problem last rev that we still don't understand. We're trying to take a look at it in that we didn't get - didn't get all of the data recorded on that DSC and we're not sure whether it was a problem we had here or - or something involved there. Just want to alert you to it and if you all can be very carefully on the DSC procedures that you've got there to insure that we're going, we would appreciate it.

ASTP (USA) MC502/2
Time: 09:54 CDT, 146:34 GET
7/21/75

CMP Okay. Did it seem to be a question of timing or just that it wasn't (garble) data or something?
CC-H Yeah. It - if you look back at that last - last rev 88, it would appear that you had a DET time - -

END OF TAPE

ASTP (USA) MC503/1
Time: 10:04 CDT, 146:44 GET
Date: 7/21/75

CMP Okay, did it seem to be a question of timing or just that it wasn't - -

CC-H Yes. It - if you look back at that last - last rev 88, it would appear that you had a DET time of starting the thing on the DSC on about 33 and we got that last portion of the pass but we didn't get the - the initial one.

CC-H Well, which way - you were supposed to have started at - 0.

ACDR Okay, Crip. We have a checkoff list we're using and everything is checked off.

CC-H Rog. We - we're not sure exactly where the problem was, Tom. I assume you guys are being very careful with it but I was just alerting you that we had had the problem here so we can continue to be so.

ACDR Rog. I understand.

CC-H Apollo, Houston. In looking over your configuration following that burn we show that BMAT 1 is still on and we need that turned off please.

ACDR Okay. Turned OFF

END OF TAPE

ASTP (USA) MC504/1
Time: 10:14 CDT, 146:54 GET
Date: 7/21/75

ACDR Hello, Houston, Apollo.
CC-H Go ahead.
ACDR Well, we're right on schedule all the maneuvers are going good. Are you getting good data? Over.
CC-H I believe so. Let me reverify that.
CC-H That's affirm Tom. We are getting good data. Looks real good.
ACDR All right.
CC-H I was just sitting down here being quiet to stay out of your hair.
ACDR Thank you for the compliment.
CC-H Anytime, anytime.
CC-H You really are sharp up there today.
ACDR Oh, we feel great, Crip. Everything's going good.
CC-H Great. That's good you hear.
ACDR Okay, Crip. Looking forward to 21:12. That's theoretically when we should lose ATS, and that's when you verify that tape motion. Over.
CC-H Roger. And of course just before we go over the hill there, Ed will put in a command to get the thing initiated for you.
ACDR Rog. And we'll recheck it.
CC-H Rog. In just in case we missed it, that's why the verify's there.
ACDR Okay.
ACDR Go ahead.
ACDR How's "Ben Franklin" been doing down there these days?
CC-H Oh, he's just having a ball pushing all these buttons. Trying to get all that data in.
ACDR I can tell.
ACDR Yeah, I can tell. (Laughter)
CC-H It's a pretty - pretty challenging mission for INCO in this latter part of the mission.
ACDR Yeah. I can imagine all the things to get this data back.
CC-H Deke, I - I also think it's pretty challenging trying to get his water boiler going right.

END OF TAPE

ASTP (USA) MC505/1
Time: 10:31 CDT, 147:11 GET
7/21/75

CC-H Tom, R1 there should be 169.10, we see it though, 169.00.
ACDR Thank you, Crip.
CC-H Just to show we're not totally asleep.
ACDR Yeah. I know it. (garble.) Maybe I didn't hit the one button hard enough and it got out in 0's.
CC-H And with all those numbers on there, I don't see how you keep them all straight.
ACDR Yeah. This is really a two man job, to coordinate the cross check here.
CC-H Roger, that.
CC-H Apollo, Houston. We're about ready to lose you here on the ATS, and we'll see you in a couple of minutes, oh actually about five I guess, through Orroral for a short pass.
ACDR Okay. Thank you, Crip.
CC-H Apollo, Houston, talking at you through Orroral. Got you for a little over a minute.
ACDR Okay.
CMP Roger. Reading is weak, Crip.
CC-H Okay, fine. I've got you loud and clear right now.
CC-H Apollo, Houston. If you read me well enough - well, we're just about to go over the hill. We'll see you at Quito in 30 minutes.
ACDr Okay. Anything you need real fast?
CC-H I was going to give you the DET time, to count it to on REV 90, which is over on the next page there 148:23:01, if you want it.
ACDR That was 148:23:01, right?
CC-H That's affirmative.
ACDR Got it.
CC-h Okay, thank you.
PAO This is Apollo Control. Loss of signal through Orroral Valley. And - next station acquisition will be Quito, Ecuador, final Quito pass for this morning. That's in 26 minutes. We'll return at that time on revolution 91 which is oh - a revolution and a half away from the present spacecraft position. There will be another series of Earth Observation photography. In rapid succession, wioll be geological structures in Central America. Currents and eddies in the Gulf of Mexico. The so-called Red Tide around Florida, fish killing Red Tide. Sediment and pollution plumes in the Chesapeake Bay. Red Tide along the New England coast. The - an attempt to photograph the confluence of the gulf stream and the Laborador Current. And oil slicks along shipping routes in the North Atlantic. We'll be back in 25 minutes at Quito, this is Apollo Control at 147:23.

END OF TAPE

ASTP (USA) MC506/1
Time: 11:09 CDT, 147:49 GET
7/21/75

PAO This is Apollo Control at 147:47 ground elapsed time. Tracking station Quito will acquire Apollo in about 40 seconds. We'll continue through Quito, Merritt Island Launch Area and reacquisition through ATS-6 satellite. Standing by at 147:47.

CC-H Apollo, Houston. We're AOS through Quito for about a minute and a half.

ACDR Roger, Crip. (Garble) leg volumes, still have Deke to go -

CC-H Apollo, Houston. You're breaking up. Stand by one.

CC-H Apollo, Houston. We'll have you in MILA in a couple of minutes. Why don't we stand by - maybe get a little better there.

CC-H Apollo, Houston. We're now talking at you through MILA. How do you read?

ACDR How about I read you loud and clear, Crip.

CC-H Okay. I got you the same now.

ACDR And we're already in the attitude to start the next EUV and again the revised (garble) at 148:23:01.

CC-H That's a good readback. That is correct. And we're sitting here looking at your attitude and it's good.

ACDR Okay. Yeah, everything should have been perfect on that last one, we got a good data.

CC-H Okay. Hope so too. We're working on a little plan here it looks like - with minor impact to recover that - that data that we lost earlier. And one item I guess if you got a few minutes there, I can talk to you about, Tom. Just flip your flight plan over to the next page at about 149:25 or so. We've got ax X-ray cal called out there.

ACDR Okay. Stand by.

ACDR Roger.

CC-H Okay. What we'd like you to do is. We're going to delete that cal and instead we're going to have you do a - kind of a little special procedure which is a very - couple of switch throwings to activate the evaporator and its a non normal activation. And I'll call them out to you when we get AOS through MILA. I would also, contrary to what I believe Bo told you earlier this morning, I'd like to delete that activating the primary evap under 149 hours under Deke's column.

ACDR Okay. We'll delete that now.

ACDR And we'll pick up on your directions through MILA. We have ATS to follow that about activating the evap rate on your instructions.

CC-H Okay. Real fine. Thank you very much.

END OF TAPE

ASTP (USA) MC507/1
Time: 11:19 CDT, 147:59 GET
5/21/75

ACDR Crip, how do you read through ATS?
CC-H Loud and clear. How me?
ACDR Loud and clear.
CC-H I expected you guys were all busy getting your leg volumes out of the road, so I was being quiet again.
ACDR Yeah. Trying to get a quick shave in here, between now and when we start punching that DSKY again.
CC-H Right. Got to look pretty for the - for the TV, I guess.
ACDR I haven't even looked that far ahead.
CC-H Well, I don't even know if we've got any coming up.
ACDR I haven't had time to shave for 2 days, so I'm finally doing a little bit.
CC-H All right. Got to keep that military appearance.
ACDR Right.
ACDR Okay. I'm going off the headset.
CC-H Understand. You got to take your headset off. Gene said he'd be glad to set some TV up for you, if you wanted it.
ACDR I don't - I don't think so, right now.
CC-H I didn't think so either.

END OF TAPE

ASTP (USA) MC508/1
Time: 11:29 CDT, 148:09 GET
7/21/75

CC-H Apollo, Houston. Wonder if the DP's got a moment to let me bend his ear regarding upcoming vis ops observations for his next pass?

CMP Just a second, Crip. We'll - ask him to get on a headset.

CC-H Okay. Vance, were you the gent that requested some information regarding 35 millimeter film and how to use the Nikon for targets of opportunity?

CMP I think Tom asked that last night. He was essentially wondering if we needed special - oh, sort of additions to the photo object cue card on light settings, F stops, etcetera - or if we could just use the light meter in the Nikon as is.

CC-H Yeah. I think we told him that - -

CMP (Garble.)

CC-H Yeah. I think we told him that he could use the light meter. But I did have some additional information. I can just give all of that to Deke, if he wants to come up.

CMP Okay. I'll tell him.

CMP It'll be a couple of minutes before he can get up. He's kind of busy now.

CC-H Okay. There's no rush at all. I was just - any time that's convenient for you guys to talk about it. One of the things that I was going to talk to him about, Vance, was - I think you had talked Farouk, pre-mission, regarding some of Cousteau's sea-forming sites. And I was going to tell him where one was, in the Adriatic Sea, so that he might be able to get it. We're going to be coming over it next rev, and he's going to be doing some of his obs, anyhow, so he might be able to get a shot of it.

CMP Oh, hey! That'd be nice. Glad to hear we can do something in that area. Deke'll - when he comes up, then he can copy the location.

CC-H Yeah.

DMP Well, Crip, how do you read me?

CC-H Loud and clear, Deke. How me?

DMP 5 by.

CMP You and me, both.

DMP 30 seconds are overhead and counting.

CC-H Okay -

CMP LED(?) open.

DMP Okay, Crip. I'm standing by, and (garble). We got a good EP. It's up and running. And the freezer plug came out very fine this morning. Back in again, no problem. Everything looks A number 1 on that experiment of this morning.

CC-H Great. Really glad to hear that. What - we had a couple items of interest on - that you might be able to do something about, on this upcoming pass that you're going to have. One of them

is that - we've had a rather large oil slick, about 40 miles long and 5 miles wide, reported about 50 miles east of Key West. And we think that, that probably should be visible from the number 1 window in the command module, when you come across there on the next rev.

DMP Okay. That's 50 west of Key West.

CC-H East. East of Key West.

DMP Okay. 50 east.

CC-H Okay. And we're - it's going to be available to you just about - oh, part of that red tide area, when you're coming across - about the same area, there. A little before it.

DMP Okay.

CC-H Okay. The other one was -

DMP Before it.

CC-H Okay. The other one was that - I think Vance had asked Farouk to look in the Funk and Woods "Captain Cousteau" regarding some sea-forming sites. And we got some data back that one of them is going to - that he's considering this on the eastern edge of the Adriatic Sea. And you're going to be coming across it. And it should be visible from number 3 window, on rev 91, at about 149:44 GET. And you can take a look at your book at target 9-J and at least get an idea of the area by the Adriatic.

DMP Okay. Rev 91, 149:44, to 9-J - and what was the window number?

CC-H Window number 3 - the big one there.

CC-H Okay. The other item was that - is - Tom had talked to the ground yesterday, regarding use of the Nikon, since you guys were getting a little bit short on film there, for targets of opportunity. Basically, we're telling you you need to use the photo cue card, but I've got some recommendations, if you want to copy them down.

DMP Okay. Go ahead.

CC-H Okay. Recommend using the 300 millimeter lens, although some of the problems we've had from Skylab indicates it might - that might end up blurring a little bit. But we can try it. We recommend a shutter speed of 1/1,000. And for your CI film, your interior film - use your exterior photo cue card, table bravo, but increase each setting by 1 F-stop. For example, instead of - if it calls for F-8, we want you to use F-11. And for CS film - Charlie Sierra - we want you to use table B directly.

DMP Okay.

CC-H Okay. And if you have a chance to record any of your photos on your voice record- -

END OF TAPE

ASTP (USA) MC509/1
Time: 11:39 CDT, 148:19 GET
7/21/75

CC-H - - we want you to use F11. And for CS film, Charlie Sierra, we want you to use Table B directly.

ACDR Okay.

CC-H Okay. And if you have a chance to record any of your photos on your voice recorder, we'd appreciate it also.

ACDR We've been doing that.

CC-H Yeah. I thought you probably were.

CC-H And that's - that's all I was holding for you right now. Let you get back to - to observing the world.

ACDR Okay. Fine. I appreciate that. Probably they'd have it here - it seems like about the time we get ready for a good old dip or crystal growth is when so we see the exciting things. Of course we're out of the way and we're not really very sure, but those (garble).

CC-H Okay. Hang in there and keep after them.

END OF TAPE

ASTP (USA) MC510/1
Time: 11:49 CDT, 148:29 GET
/21/75

ACDR Houston, Apollo.
MCC-H Go ahead.
ACDR Okay. I guess we'll be losing you shortly and that's when it calls out at 2706 to verify the DSC tape motion?
CC-H Affirm.
ACDR Man I hope the data's coming in good for them.
CC-H Hey, it's still looking good.
ACDR Okay.
CC-H Okay. We're about ready to go LOS through the ATS and next station contact quite a while away be through MILA in about 37 minutes. That's at 149:24. See you there.
ACDR Okay, Crip. Take it easy.
PAO This is Apollo Control. 148:51 ground elapsed time. Loss of signal through ATS-6 satellite 32 minutes from reacquisition at Merritt Island Launch Area. Apollo command module pilot Vance Brand scheduled, during this upcoming pass to go through a physical exercise period with the biomedical harness attached. While he's doing that, the docking module pilot Deke Slayton will do the series of Earth observations and photography and a fairly rapid sequence along the ground track starting with Central America geological structures, currents and eddies in the Gulf of Mexico, the fish killing rip tide along the Florida coast, sediment and pollution plumes that are flowing out into Chesapeake Bay, a red tide along the New England coast, the confluence of the Gulf Stream, and the Labrador current, oil slicks along shipping routes and shipping lanes in the north Atlantic and finally in the bioluminesence caused by microorganisims in the Red Sea. We'll return in 31 minutes at Merritt Island Launch Area. Apollo spacecraft now midway through revolution 90. And if we can locate the display we'll get some orbital measurements on Apollo. There they are 116.5 nautical miles at perigee, 120.9 nautical miles apogee. Period of orbit 1 hour 28 minutes, 40 seconds. Present altitude 121.3 miles. Velocity 25,511.2 feet per second. At 148:54 ground elapsed time, Apollo Control.

END OF TAPE